aqua science engineers inc.

March 31, 1998

GROUNDWATER MONITORING REPORT
MARCH 18, 1998 SAMPLING

at

Emeryville Properties
1400 Park Avenue
Emeryville, California

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
(510) 820-9391

1.0 INTRODUCTION

This report details the results of the groundwater sampling event performed on March 18, 1998 at 1400 Park Avenue in Emeryville, California. Aqua Science Engineers, Inc. (ASE) has prepared this report on behalf of and at the request of Emeryville Properties.

2.0 SITE BACKGROUND

2.1 Prior Consultants' Work

In 1992, a below grade concrete vault was removed outside the north side of the building. This vault was used for secondary containment for six former vats used for chrome-plating activities. A Final Closure Report issued by Excel Trans in 1992 indicated that the soil surrounding the vault contained elevated concentrations of chromium and approximately 40 tons of soil were removed from the site. In October 1992, Excel Trans drilled four soil borings in an attempt to delineate the chromium contamination in soil downgradient of the former vault. Total chromium concentrations in these borings ranged from 2.2 parts per million (ppm) to 88 ppm, far below the action level in the US EPA Region IX Preliminary Remediation Goals for industrial soil.

In December 1994, Alton Geoscience conducted assessment activities at the site related to the former vault which included the drilling of six (6) soil borings and the installation of monitoring wells MW-1, MW-2 and MW-3. Soil and groundwater samples from these borings and wells were analyzed for total and Hexavalent chromium, total lead, and halogenated volatile organic compounds (HVOCs).

The results of the Alton investigation indicated that there were low concentrations of total chromium (ranging from 19 ppm to 91 ppm) and Hexavalent chromium ranging from non-detectable to 27 ppm in the soil. Total chromium ranging from non-detectable to 0.069 ppm, and Hexavalent chromium concentrations ranging from non-detectable to 0.025 ppm were detected in water samples collected from monitoring wells MW-1, MW-2 and MW-3 at the site. Low concentrations of total lead were detected in all of the soil samples, but at concentrations below regulatory thresholds. No total lead was detected in the water samples collected from monitoring wells MW-1, MW-2 and MW-3 at the site. HVOC concentrations were identified in two soil samples collected on site. However, a source for HVOC compounds was not identified near the former tank vault. HVOCs were detected in groundwater samples

from all three monitoring wells. Since MW-3 was positioned upgradient of the former vault, and HVOCs were identified in the water sample from MW-3, an offsite source was considered.

Alton performed a review of HVOC data for both the Del Monte plant and the ECI facility, each of which are located near and either upgradient or crossgradient of the subject site. Data shows the HVOC contamination in groundwater from these two site appear to be affecting at least a portion of the Emeryville Properties property.

For further information regarding the afore-mentioned remedial and assessment activities, see the Alton Geoscience report dated May 17, 1995. A "No Further Action" letter was issued by the ACHCSA on December 13, 1995 related to the former vault closure activities mentioned above.

2.2 Aqua Science Engineers, Inc. (ASE) Work

On July 21, 1995, ASE excavated 112.36 tons of petroleum-hydrocarbon contaminated soil from below a truck dock that was fitted with a honing machine used by a previous building tenant. Analytical results of sidewall excavation soil samples collected 6-feet below ground surface (bgs) indicated the presence of hydrocarbons from C8 to C44 as high as 870 ppm and oil and grease concentrations as high as 1,600 ppm. Bottom of excavation soil samples collected from 10-feet bgs were non-detectable for hydrocarbons from C8 to C44 with only 20 ppm oil and grease. A grab groundwater sample collected from within the pit contained 7,000 parts per billion (ppb) total petroleum hydrocarbons and 11,000 ppb total oil and grease.

Soil and water samples were also analyzed for HVOCs by EPA Method 8010. None of the soil samples contained HVOC concentrations above reporting limits. However, the grab groundwater sample contained tetrachloroethene (PCE) at 19 ppb, trichloroethene (TCE) at 100 ppb, vinyl chloride at 11 ppb, 1,2- dichlorobenzene at 1 ppb, cis 1,2-dichloroethene (cis-1,2-DCE) at 49 ppb, and trans 1,2-dichloroethene (trans-1,2-DCE) at 3 ppb. All these HVOCs are known to exist in the area's groundwater from contamination caused by others.

Further overexcavation of contaminated soil was not possible due to the position of the excavation in proximity to the building walls and the adjacent Horton Street and sidewalk.

The excavation was backfilled with clean, imported soil, and the contaminated soil was transported to and disposed of at Forward, Inc., a non-hazardous landfill in Manteca, California, on July 13, 1995. For further information regarding these activities, please see ASE's report dated August 3, 1995.

On October 23, 1995, ASE removed three (3) underground fuel storage tanks (USTs) from the site (Figure 2). The existing monitoring wells at the site have been utilized for sampling related to the potential release from these former USTs. See ASE report dated January 12, 1996 for details regarding the UST removal activities.

On December 6, 1996, ASE conducted assessment activities at the site related to the former honing pit which included the drilling of one (1) soil boring and the installation of monitoring well MW-4 within that boring. Soil samples were collected from this boring, and groundwater samples were collected from this monitoring well and previously installed monitoring wells. See ASE's report dated March 7, 1997 for details regarding the assessment activities.

3.0 GROUNDWATER GRADIENT AND DIRECTION

ASE surveyed the top of casing elevation of each well relative to a site datum on December 23, 1996. An assumed site datum elevation of 10-feet above mean sea level (msl) was interpolated from the USGS Oakland West, California 7.5 Minute Quadrangle (1980). The top of casing elevation of monitoring well MW-2 was chosen as 10-feet, and the top of casing elevations of monitoring wells MW-1, MW-3 and MW-4 were surveyed relative to monitoring well MW-2.

The depth to groundwater was measured in each well prior to sampling on March 18, 1998 with an electric water level sounder. Depth to groundwater measurements are presented in Table One, and groundwater elevation contours are plotted on Figure 2. The groundwater flow direction beneath the site is to the west at an approximate gradient of 0.006 feet per foot.

4.0 GROUND WATER SAMPLE COLLECTION AND CHEMICAL ANALYSIS

On March 18, 1998, ASE arrived on-site. After measuring and recording the depths to groundwater in monitoring wells MW-1, MW-2, MW-3 and MW-4, ASE purged four well casing volumes of groundwater from monitoring wells MW-2, MW-3, and MW-4 using a pre-cleaned dedicated polyethylene bailer. Monitoring well MW-1 was not sampled during this sampling event. No free-floating hydrocarbons or sheen were encountered in any of the wells. The pH, temperature and conductivity of the purge water was monitored during evacuation, and samples were not collected until these parameters stabilized.

Groundwater samples were collected from wells MW-2, MW-3, and MW-4 using dedicated polyethylene bailers. Groundwater samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials pre-preserved with hydrochloric acid, labeled, placed in protective foam sleeves and placed on ice for transport to Chromalab of Pleasanton, California (ELAP# 1094) under appropriate chain-of-custody documentation. Groundwater samples were also decanted into 1-liter plastic bottles for metals analysis. The samples within the 1-liter bottles were filtered and preserved by the laboratory upon reciept (less than 24 hours after sampling). The analytical report and chain-of-custody documentation are included in Appendix A. Well Sampling Field Logs are included in Appendix B. Well purge water was placed in a 55-gallon steel drum and stored on-site pending analytical results.

The groundwater samples collected from monitoring wells MW-2, MW-3, and MW-4 were analyzed for the presence of volatile organic compounds (VOCs) by EPA Method 8240, and total lead and total chromium by EPA Method 6010. Certified analytical results are presented on Tables Two and Three.

5.0 CONCLUSIONS

Total chromium was detected in groundwater samples collected from wells MW-2 and MW-4 at 7.1 ppb and 100 ppb, respectively. Total lead was detected in groundwater samples collected from wells MW-2 and MW-4 at 7.4 ppb and 7.7 ppb, respectively. Cis-1,2-DCE was detected in groundwater samples collected from wells MW-2, MW-3, and MW-4 at 2.0 ppb, 6.8 ppb, and 33 ppb, respectively. PCE was detected in

groundwater samples collected from wells MW-2, MW-3, and MW-4 at 3.7 ppb, 3.4 ppb, and 21 ppb. TCE was detected in groundwater samples collected from wells MW-2, MW-3, and MW-4 at 4.4 ppb, 3.9 ppb, and 85 ppb, respectively. Trans-1.2-DCE was detected in groundwater samples collected from well MW-4 at 2.1 ppb. Vinyl chloride was not detected in groundwater samples collected from site monitoring wells. All other VOC concentrations were below the laboratory detection limits. The cis-1,2-DCE, TCE, and PCE concentrations detected in groundwater samples collected from monitoring well MW-4 were above the California Department of Toxic Substances Control Board maximum contaminant level for drinking water.

6.0 RECOMMENDATIONS

ASE recommends the continued annual sampling of groundwater monitoring wells MW-2, MW-3 and MW-4 for total chromium, total lead, and volatile organic compounds. Monitoring well MW-1 will no longer be sampled as part of groundwater monitoring events. The next monitoring event is scheduled for March 1999.

7.0 REPORT LIMITATIONS

The results of this assessment represent conditions at the time of the groundwater sampling for the specific parameters analyzed by the laboratory. It does not fully characterize the site for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CAL-EPA certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity to continue providing environmental services for this project. Should you have any questions or comments, please feel free to call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

Charlie Rous
Staff Geologist

David Allen, R.E.A.
Senior Project Manager

Attachments: Figures
Tables
Appendices

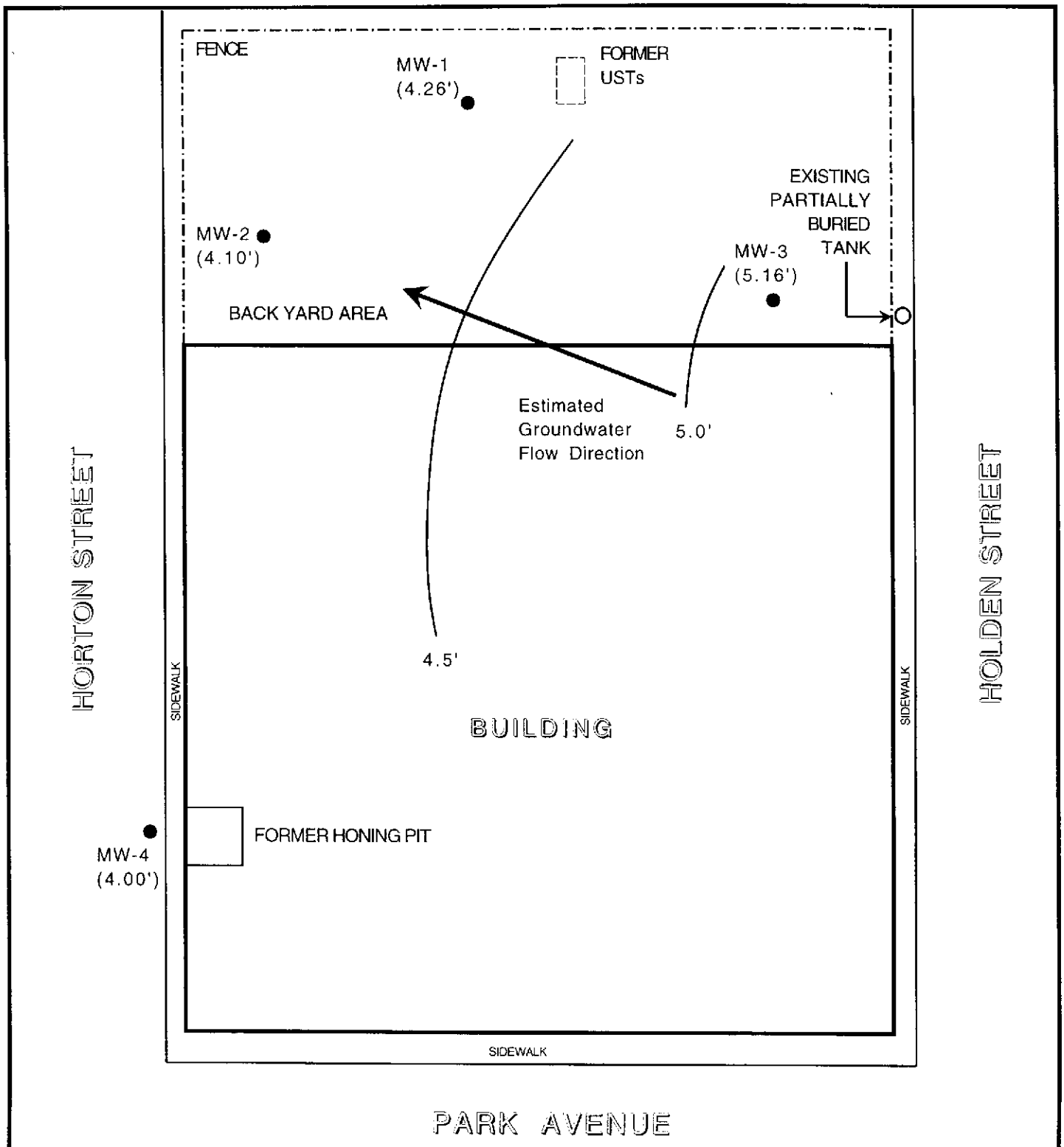
cc: Ms. Susan Hugo, Alameda County Health Care Services Agency
Regional Water Quality Control Board - San Francisco Bay Region
Mr. William Lewerenz, Emeryville Properties
Ms. Gwen Tellegen

NORTH

LOCATION MAP

Emeryville Properties Facility
1400 Park Avenue
Emeryville, California

Aqua Science Engineers | Figure 1



LEGEND

MW-4
(4.00') ● Monitoring Well With Groundwater Elevation

/ Groundwater Elevation Contour

NORTH

SCALE
1" = 50'

GROUNDWATER ELEVATION CONTOUR MAP - 03/18/98

Emeryville Properties
1400 Park Avenue
Emeryville, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

TABLE ONE

Summary of Groundwater Well Survey Data

Well I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	12-13-96	12.67	7.85	4.82
	03-21-97		8.73	3.94
	03-18-98		**8.41**	**4.26**
MW-2	12-13-96	10.00	5.39	4.61
	03-21-97		6.23	3.77
	03-18-98		**5.90**	**4.10**
MW-3	12-13-96	13.61	7.69	5.92
	03-21-97		8.81	4.80
	03-18-98		**8.45**	**5.16**
MW-4	12-13-96	8.17	3.42	4.75
	03-21-97		4.32	3.85
	03-18-98		**4.17**	**4.00**

TABLE TWO

Groundwater Analytical Results
TPH-G, TPH-D, TPH-MO, BTEX and MTBE
(All Results are in **parts per billion**)

Sample I.D.	TPH-G	TPH-D	TPH-MO	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
MW-1								
12/13/96	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<5
03/21/97	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	<5
03/18/98	**Not sampled this quarter**							
MW-2								
12/13/96	NA	NA	NA	<2	<2	<2	<2	NA
03/21/97	Not sampled this quarter							
03/18/98	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-3								
12/13/96	NA	NA	NA	<2	<2	<2	<2	NA
03/21/97	Not sampled this quarter							
03/18/98	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-4								
12/13/96	<50	140*	<50	<2	<2	<2	<2	NA
03/21/97	Not sampled this quarter							
03/18/98	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
DTSC MCL	NE	NE	NE	1	100	680	1,750	NE

Notes:
* = Chromatogram pattern does not resemble diesel fuel standard.
DTSC MCL = California Department of Toxic Substances Control maximum contaminant level for drinking water.
NA = Not analyzed
NE = Not established

TABLE THREE

Groundwater Analytical Results
Metals, Volatile Organic Compounds and
Semi-Volatile Organic Compounds
(All Results are in **parts per billion**)

Sample I.D.	Total Chromium	Lead	cis-1,2 DCE	trans-1,2 DCE	PCE	TCE	VC	Other VOC's	SVOC's
MW-1									
12/13/96	NA	NA	NA	NA	NA	NA	NA	NA	NA
03/21/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
03/18/98	**Not sampled this quarter**								
MW-2									
12/13/96	57	<5	<2	<2	<2	3.4	<5	<2 - <20	NA
03/21/97	Not sampled this quarter								
03/18/98	**7.1**	**7.4**	**2.0**	**< 2**	**3.7**	**4.4**	**< 5.0**	**< 2 - < 100**	**NA**
MW-3									
12/13/96	<5	<5	14	<2	4.7	13	<5	<2 - <20	NA
03/21/97	Not sampled this quarter								
03/18/98	**< 5**	**< 5**	**6.8**	**< 2**	**3.4**	**3.9**	**< 5**	**< 2 - < 100**	**NA**
MW-4									
12/13/96	300	<5	31	<2	18	110	8.2	<2 - <20	<2-5
03/21/97	Not sampled this quarter								
03/18/98	**100**	**7.7**	**33**	**2.1**	**21**	**85**	**< 5**	**< 2 - < 100**	**NA**
DTSC MCL	50	50	6	5	5	5	0.5	varies	varies

Notes:
DTSC MCL = California Department of Toxic Substances Control maximum contaminant level for drinking water.
NA = Not analyzed
cis 1,2-DCE = cis-1,2-dichloroethene
trans 1,2-DCE = trans-1,2-dichloroethene
PCE = tetrachloroethene
TCE = trichloroethene
VC = vinyl chloride

APPENDIX A

Certified Analytical Report
and
Chain of Custody Documentation

CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1998 *Submission #:* 9803246

AQUA SCIENCE ENGINEERS INC
Atten: Charlie Rous
Project: EMERYVILLE PROPERTY *Project#:* 2908
Received: March 18, 1998
re: One sample for Volatile Organics by GC/MS analysis.
Method: *SW846 METHOD 8240A Nov 1990*

Client Sample ID: **MW-3**
Spl#: 175844 *Matrix:* WATER
Sampled: March 18, 1998 *Run#:* 11811 *Analyzed:* March 23, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
ACETONE	N.D.	50	N.D.	--	1
BENZENE	N.D.	2.0	N.D.	99.7	1
BROMODICHLOROMETHANE	N.D.	2.0	N.D.	--	1
BROMOFORM	N.D.	2.0	N.D.	--	1
BROMOMETHANE	N.D.	5.0	N.D.	--	1
2-BUTANONE (MEK)	N.D.	100	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	2.0	N.D.	--	1
CHLOROBENZENE	N.D.	2.0	N.D.	101	1
CHLOROETHANE	N.D.	2.0	N.D.	--	1
2-CHLOROETHYLVINYLETHER	N.D.	10	N.D.	--	1
CHLOROFORM	N.D.	3.0	N.D.	--	1
CHLOROMETHANE	N.D.	5.0	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	2.0	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	2.0	N.D.	98.5	1
1,2-DICHLOROETHENE (CIS)	6.8	2.0	N.D.	--	1
1,2-DICHLOROETHENE (TRANS)	N.D.	2.0	N.D.	--	1
1,2-DICHLOROPROPANE	N.D.	2.0	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--	1
ETHYLBENZENE	N.D.	2.0	N.D.	--	1
2-HEXANONE	N.D.	50	N.D.	--	1
METHYLENE CHLORIDE	N.D.	3.0	N.D.	--	1
4-METHYL-2-PENTANONE (MIBK)	N.D.	50	N.D.	--	1
STYRENE	N.D.	2.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	2.0	N.D.	--	1
TETRACHLOROETHENE	3.4	2.0	N.D.	--	1
TOLUENE	N.D.	2.0	N.D.	102	1
1,1,1-TRICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	2.0	N.D.	--	1
TRICHLOROETHENE	3.9	2.0	N.D.	99.3	1
TRICHLOROFLUOROMETHANE	N.D.	2.0	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	N.D.	--	1
VINYL ACETATE	N.D.	20	N.D.	--	1
VINYL CHLORIDE	N.D.	5.0	N.D.	--	1
TOTAL XYLENES	N.D.	2.0	N.D.	--	1

Note: SAMPLE WAS ANALYZED USING EPA METHOD 8260

510-837-4853 PM 03/25 1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1998 *Submission #:* 9803246

AQUA SCIENCE ENGINEERS INC
Atten: Charlie Rous
Project: EMERYVILLE PROPERTY *Project#:* 2908
Received: March 18, 1998
re: One sample for Volatile Organics by GC/MS analysis, continued.
Method: *SW846 METHOD 8240A Nov 1990*

Client Sample ID: **MW-3**
Spl#: 175844 *Matrix:* WATER
Sampled: March 18, 1998 *Run#:* 11811 *Analyzed:* March 23, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR

Oleg Nemtsov
Chemist

Michael Verona
Operations Manager

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Received: March 18, 1998
re: One sample for Volatile Organics by GC/MS analysis.
Method: *SW846 METHOD 8240A Nov 1990*

Client Sample ID: **MW-4**
Spl#: 175845 *Matrix:* WATER
Sampled: March 18, 1998 *Run#:* 11811 *Analyzed:* March 23, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
ACETONE	N.D.	50	N.D.	--	1
BENZENE	N.D.	2.0	N.D.	99.7	1
BROMODICHLOROMETHANE	N.D.	2.0	N.D.	--	1
BROMOFORM	N.D.	2.0	N.D.	--	1
BROMOMETHANE	N.D.	5.0	N.D.	--	1
2-BUTANONE (MEK)	N.D.	100	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	2.0	N.D.	--	1
CHLOROBENZENE	N.D.	2.0	N.D.	101	1
CHLOROETHANE	N.D.	2.0	N.D.	--	1
2-CHLOROETHYLVINYLETHER	N.D.	10	N.D.	--	1
CHLOROFORM	N.D.	3.0	N.D.	--	1
CHLOROMETHANE	N.D.	5.0	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	2.0	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	2.0	N.D.	98.5	1
1,2-DICHLOROETHENE (CIS)	33	2.0	N.D.	--	1
1,2-DICHLOROETHENE (TRANS)	2.1	2.0	N.D.	--	1
1,2-DICHLOROPROPANE	N.D.	2.0	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--	1
ETHYLBENZENE	N.D.	2.0	N.D.	--	1
2-HEXANONE	N.D.	50	N.D.	--	1
METHYLENE CHLORIDE	N.D.	3.0	N.D.	--	1
4-METHYL-2-PENTANONE (MIBK)	N.D.	50	N.D.	--	1
STYRENE	N.D.	2.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	2.0	N.D.	--	1
TETRACHLOROETHENE	21	2.0	N.D.	--	1
TOLUENE	N.D.	2.0	N.D.	102	1
1,1,1-TRICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	2.0	N.D.	--	1
TRICHLOROETHENE	85	2.0	N.D.	99.3	1
TRICHLOROFLUOROMETHANE	N.D.	2.0	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	N.D.	--	1
VINYL ACETATE	N.D.	20	N.D.	--	1
VINYL CHLORIDE	N.D.	5.0	N.D.	--	1
TOTAL XYLENES	N.D.	2.0	N.D.	--	1

Note: SAMPLE WAS ANALYZED USING EPA METHOD 8260

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re: One sample for Volatile Organics by GC/MS analysis, continued.
Method: *SW846 METHOD 8240A Nov 1990*

Client Sample ID: **MW-4**
Spl#: 175845 *Matrix:* WATER
Sampled: March 18, 1998 *Run#:* 11811 *Analyzed:* March 23, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR

Oleg Nemtsov
Chemist

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re: One sample for Volatile Organics by GC/MS analysis.
Method: *SW846 METHOD 8240A Nov 1990*

Client Sample ID: **MW-2**
Spl#: 175843 *Matrix:* WATER
Sampled: March 18, 1998 *Run#:* 11727 *Analyzed:* March 19, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
ACETONE	N.D.	50	N.D.	--	1
BENZENE	N.D.	2.0	N.D.	103	1
BROMODICHLOROMETHANE	N.D.	2.0	N.D.	--	1
BROMOFORM	N.D.	2.0	N.D.	--	1
BROMOMETHANE	N.D.	5.0	N.D.	--	1
2-BUTANONE (MEK)	N.D.	100	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	2.0	N.D.	--	1
CHLOROBENZENE	N.D.	2.0	N.D.	94.0	1
CHLOROETHANE	N.D.	2.0	N.D.	--	1
2-CHLOROETHYLVINYLETHER	N.D.	10	N.D.	--	1
CHLOROFORM	N.D.	3.0	N.D.	--	1
CHLOROMETHANE	N.D.	5.0	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	2.0	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	2.0	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	2.0	N.D.	115	1
1,2-DICHLOROETHENE (CIS)	2.0	2.0	N.D.	--	1
1,2-DICHLOROETHENE (TRANS)	N.D.	2.0	N.D.	--	1
1,2-DICHLOROPROPANE	N.D.	2.0	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--	1
ETHYLBENZENE	N.D.	2.0	N.D.	--	1
2-HEXANONE	N.D.	50	N.D.	--	1
METHYLENE CHLORIDE	N.D.	3.0	N.D.	--	1
4-METHYL-2-PENTANONE (MIBK)	N.D.	50	N.D.	--	1
STYRENE	N.D.	2.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	2.0	N.D.	--	1
TETRACHLOROETHENE	3.7	2.0	N.D.	--	1
TOLUENE	N.D.	2.0	N.D.	96.9	1
1,1,1-TRICHLOROETHANE	N.D.	2.0	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	2.0	N.D.	--	1
TRICHLOROETHENE	4.4	2.0	N.D.	102	1
TRICHLOROFLUOROMETHANE	N.D.	2.0	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	N.D.	--	1
VINYL ACETATE	N.D.	20	N.D.	--	1
VINYL CHLORIDE	N.D.	5.0	N.D.	--	1
TOTAL XYLENES	N.D.	2.0	N.D.	--	1

510-837-4853 PM 03/25 1220 Quarry Lane • Pleasanton, California 94566-4756
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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1998 *Submission #:* 9803246

AQUA SCIENCE ENGINEERS INC
Atten: Charlie Rous
Project: EMERYVILLE PROPERTY *Project#:* 2908
Received: March 18, 1998
re: One sample for Volatile Organics by GC/MS analysis, continued.
Method: *SW846 METHOD 8240A Nov 1990*

Client Sample ID: **MW-2**
Spl#: 175843 *Matrix:* WATER
Sampled: March 18, 1998 *Run#:* 11727 *Analyzed:* March 19, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR

Oleg Nemtsov
Chemist

Michael Verona
Operations Manager

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1998 *Submission #:* 9803246

AQUA SCIENCE ENGINEERS INC

Atten: Charlie Rous

Project: EMERYVILLE PROPERTY *Project#:* 2908
Received: March 18, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-2**
Spl#: 175843 *Matrix:* WATER *Extracted:* March 19, 1998
Sampled: March 18, 1998 *Run#:* 11717 *Analyzed:* March 19, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
CHROMIUM	0.0071	0.0050	N.D.	105	1
LEAD	0.0074	0.0050	N.D.	106	1

Shafi Barekzai
Chemist

John S. Labash
Inorganics Supervisor

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1998 *Submission #:* 9803246

AQUA SCIENCE ENGINEERS INC

Atten: Charlie Rous

Project: EMERYVILLE PROPERTY *Project#:* 2908
Received: March 18, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-3**
Spl#: 175844 *Matrix:* WATER *Extracted:* March 19, 1998
Sampled: March 18, 1998 *Run#:* 11717 *Analyzed:* March 19, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
CHROMIUM	N.D.	0.0050	N.D.	105	1
LEAD	N.D.	0.0050	N.D.	106	1

Shafi Barekzai
Chemist

John S. Labash
Inorganics Supervisor

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1998 *Submission #:* 9803246

AQUA SCIENCE ENGINEERS INC

Atten: Charlie Rous

Project: EMERYVILLE PROPERTY *Project#:* 2908
Received: March 18, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-4**
Spl#: 175845 *Matrix:* WATER *Extracted:* March 19, 1998
Sampled: March 18, 1998 *Run#:* 11717 *Analyzed:* March 19, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
CHROMIUM	0.10	0.0050	N.D.	105	1
LEAD	0.0077	0.0050	N.D.	106	1

Shafi Barekzai
Chemist

John S. Labash
Inorganics Supervisor

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Federal ID #68-0140157

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

SUBM #: 9803246
CLIENT: ASE
DUE: 03/25/98
REF #: 38777

Chain of Custody

DATE 3-18-98 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.) 820-9391

PROJECT NAME Emeryville Property NO. 2908

ADDRESS 1400 Park Ave, Emeryville

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
FILTER & PRESERVE METAL SAMPLES ASAP
5 DAY TAT

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	LUFT METALS (5) (EPA 6010-7000)	TITLE 22 (CAM 17) (EPA 6010-7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY	CORROSIVITY	IGNITABILITY	TTLC LEAD	TTLC CHROMIUM			
MW-2	3-18-98	10:45	H_2O	3 VOA						X														
MW-2		10:45		1 L																X				
MW-3		11:45		3 VOA						X														
MW-3		11:45		1 L																X				
MW-4		10:15		3 VOA						X														
MW-4		10:15		1 L																X				

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS
(signature) (time) 5:14	(signature) (time)	(signature) (time)	(signature) (time) 15:14	FILTER & PRESERVE METAL SAMPLES ASAP
Charlie Rous			Gillian Easley 3/19/98	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company-	Company-	Company- Kramer Lab	5 DAY TAT

APPENDIX B

Well Sampling Field Logs

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Emeryville Prop. 1400 Park Ave.
Job #: 2908 Date of sampling: 3-18-98
Well Name: mw-1 Sampled by: CR
Total depth of well (feet): — Well diameter (inches): 2"
Depth to water before sampling (feet): 8.41
Thickness of floating product if any: _____
Depth of well casing in water (feet): _____
Number of gallons per well casing volume (gallons): _____
Number of well casing volumes to be removed: _____
Req'd volume of groundwater to be purged before sampling (gallons): _____
Equipment used to purge the well: _____
Time Evacuation Began: _____ Time Evacuation Finished: _____
Approximate volume of groundwater purged: _____
Did the well go dry?: _____ After how many gallons: _____
Time samples were collected: _____
Depth to water at time of sampling: _____
Percent recovery at time of sampling: _____
Samples collected with: _____
Sample color: _____ Odor: _____
Description of sediment in sample: _____

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis

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aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Emeryville Prop., 1400 Park Ave
Job #: 2908 Date of sampling: 3-18-98
Well Name: MW-2 Sampled by: CR
Total depth of well (feet): 22.87 Well diameter (inches): 2"
Depth to water before sampling (feet): 5.90
Thickness of floating product if any: N/A
Depth of well casing in water (feet): 16.97
Number of gallons per well casing volume (gallons): 2.8
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 11
Equipment used to purge the well: Dedicated Bailer
Time Evacuation Began: 10:25 Time Evacuation Finished: 10:40
Approximate volume of groundwater purged: 11
Did the well go dry?: NO After how many gallons:
Time samples were collected: 10:45
Depth to water at time of sampling: 6.01
Percent recovery at time of sampling:
Samples collected with: Dedicated Bailer
Sample color: lt brown Odor: none
Description of sediment in sample: minor fine sand

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
2.5	69.2	8.21	[illegible]
5.0	[illegible]	[illegible]	[illegible]
8.0	[illegible]	[illegible]	[illegible]
11	[illegible]	[illegible]	[illegible]

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-2	2	40 ml VOA	HCl	Y	8240
MW-2	1	1 l plastic	-	Y	TPH as diesel